

Application No. 09/878,782

Filed: June 11, 2001

TC Art Unit: 2664

Confirmation No.: 1478

REMARKS

In response to an Office Action mailed on February 1, 2005, Applicant respectfully requests that the above-listed Amendments be entered and the Application be reconsidered. With entry of the above-listed Amendments, claims 1, 3, 8 and 10 are amended. Claims 1-14 are presented for examination. Claims 1 and 8 are independent, and the remaining claims are dependent.

Claim 1 is amended to recite "transmit data traffic originated by the associated bridge and destined for at least one of the other bridges on the bundle" to clarify that the transmitted data traffic need not be destined to all of the other bridges. Claim 1 is also amended to recite "receive data traffic from at least one of the other bridges via the bundle" to clarify that data need not be received from all of the other bridges. Claim 1 is further amended to recite "determine whether the received data traffic from the at least one of the other bridges is destined for the associated bridge" to make the claim consistent with the above-described amendment. Claim 1 is also amended to recite "if at least some of the received data traffic is destined for one of the other bridges ..." to clarify that not all the received data need to be destined for one of the other bridges. Claims 3, 8 and 10 are similarly amended for similar reasons. Additional amendments to claims 1, 3, 8 and 10 are discussed below.

The Examiner provisionally rejected claims 1 and 8 under the judicially created doctrine of double patenting over commonly-owned, co-pending US Pat. Appl. No. 09/872,759 (the '759 application). The Applicant appreciates the time and courtesy extended by the Examiner to the undersigned attorney during telephone calls on April 29, 2005 and May 2, 2005, during which the double patenting rejections were discussed. At the attorney's request, the Examiner agreed to hold the double patenting rejection in the present Application in abeyance until the present Application or the '759 application is allowed, whichever occurs earlier. The Applicant appreciates the Examiner's agreement in this regard.

The Examiner rejected claims 1, 4, 6, 7, 8, 11, 13 and 14 under 35 U.S.C. 103(a) as being obvious over US Pat. No. 6,389,030 to Coden ("Coden") in view of US Pat. No. 6,778,561 to Jha ("Jha"). The Examiner rejected claims 5 and 12 under 35 U.S.C. 103(a) as applied to claim 1, etc., and further in view of US Pat. No. 6,205,154 to Schmidt, *et al.* The Examiner asserted that Jha

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discloses an add-drop circuit that is operative to group a plurality of TDM channels into a bundle and schedule use of the bundle to carry data traffic originated by a bridge associated with the add-drop circuit and data traffic originated by other bridges. The Applicant respectfully submits that Jha does not support such an assertion.

Claim 1 has been amended to recite an add-drop circuit operative to schedule the use of a bundle (i.e., a group of TDM channels) to carry data traffic originated by an associated bridge and to carry data traffic originated by other bridges, "by allocating bandwidth of the bundle to the associated bridge based on a predetermined bandwidth allocation for the associated bridge." Claims 3, 8 and 10 have been similarly amended.

The Applicant respectfully submits that Jha does not disclose or suggest the recited combination. In Jha's discussion of prior art, Jha discloses dividing a payload area into fixed-sized slots called virtual tributaries (VTs) and grouping these virtual tributaries to form higher-rate channels ("bundles"). (Column 1, lines 40-45.) However, Jha teaches away from using virtual tributaries and bundling virtual tributaries. Furthermore, Jha does not teach or suggest scheduling the use of a bundle by allocating bandwidth of the bundle to a bridge based on a predetermined bandwidth allocation, as recited in amended claims 1 and 8.

Jha discloses a Hybrid Data Transport (HDT) protocol for transporting a mixture of data types (ex., ATM, IP, PPP, Frame Relay, etc.) in a single SONET payload envelope (SPE). (Column 7, lines 4-7.) As the SPE is forwarded from node to node, packets are dropped at (i.e., delivered to) respective destination nodes, and additional packets can be inserted in the SPE, such as into spaces made available when the packets are dropped. (Column 8, lines 55-61.)

A conventional SPE consists of 90 columns and 9 rows of bytes, thus the SPE contains 810 bytes. Some of these bytes carry overhead information, and the remaining bytes are available to carry payload traffic. Jha's system stores a plurality of packets (of different data types) in the available bytes of an SPE. (Column 10, lines 16-17.) Jha discloses a header that is included in the SPE to identify each packet and its data type. (Column 7, lines 44-54 and column 9, lines 53-62.) The header identifies where the packet begins within the SPE and the size of the packet. Some packets are stored intact within the SPE. Other packets are divided into fragments (pieces), and the fragments are scattered throughout the SPE, i.e., wherever bytes are available. (Column 11, line 66

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to column 12, line 20.) If the packet is fragmented, the header indicates where each fragment of the packet resides within the SPE and the fragment's size. (Column 11, lines 9-18.)

Thus, Jha treats each byte of the SPE as fungible, in that any byte can be used to store a portion of any packet, and the bytes of a packet are not necessarily stored contiguously within the SPE. Furthermore, space is allocated on a per-SPE basis. For example, bytes that carry an ATM frame in one SPE might carry part of an IP packet in the next SPE. Bytes in a series of SPEs can be considered bandwidth. Thus, bytes (bandwidth) of an SPE that are not dedicated to a fixed-bandwidth channel, such as a T1 channel, are not pre-allocated for any data type and are not pre-allocated to any particular node. Instead, bytes are allocated on a per-SPE basis as the SPE is forwarded from node to node, based on the then-current need to transmit packets, the packets' sizes and available space in the SPE. Thus, Jha does not disclose or suggest allocating bandwidth to a node based on a predetermined bandwidth allocation for the node.

According to Jha, virtual tributaries can be eliminated. (Column 8, lines 48-54.) In fact, byte-by-byte allocation of space within an SPE, as in Jha, is incompatible with virtual tributaries or any pre-defined bundling. Thus, Jha teaches away from bundling.

No art of record, alone or in combination, discloses or suggests grouping a plurality of TDM channels into a bundle and allocating bandwidth of the bundle to an associated bridge based on a predetermined bandwidth allocation for the bridge, as recited in amended claim 1. Claim 8 includes similar recitations. Independent claims 1 and 8 are, therefore, believed to be allowable.

Claims 4-7 and 11 depend directly or indirectly from claim 1 or 8. These dependent claims are, therefore, believed to be allowable, for at least the reasons discussed above with respect to claims 1 and 8.

The Applicant notes with appreciation the allowable subject matter identified by the Examiner in claims 2, 3, 9 and 10. The Examiner objected to these claims, because each claim depends upon a rejected base claim (claim 1 or 8). However, as discussed above, claims 1 and 8 are believed to be allowable. Thus, claims 2, 3, 9 and 10 are believed to be allowable, without further amendment.

For at least the foregoing reasons, it is respectfully submitted that the present Application is in a condition for allowance, and such action is earnestly solicited. The Examiner is encouraged to

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telephone the undersigned attorney to discuss any matter that would expedite allowance of the present Application.

Respectfully submitted,

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